

ANNUAL SUMMARY OF THE EAST TEXAS SOUTHERN
PINE BEETLE CONTROL PROJECT - 1965

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INTRODUCTION

Annual reports of the Southern pine beetle control project in East Texas have been issued since 1958. This report summarizes the detection, evaluation and control programs completed during 1965.

The current Southern pine beetle epidemic began in 1957 after a six year absence of conspicuous damage by Southern pine beetle. Volume loss progressed from 83,500 cubic feet in 1958 (no estimate for 1957) to 23,538,100 cubic feet in 1962, the year following damage by Hurricane Carla, when beetle activity reached its high point. Following 1962 the annual volume loss showed a downward trend for two years; the 519,900 cubic feet of timber killed in 1964 was the least since 1958. Beetle activity increased in 1965 and the 1,191,600 cubic feet killed more than doubled loss during the previous year. Also, in the same year, multiple-tree spots totaled 1982 over a 2,500,000 acre area of southeast Texas. All pine timber on an estimated 46,759 acres has been killed during the current epidemic; 1,354 acres were killed in 1965. Salvage operations removed an estimated 788,000 cubic feet, or roughly 66 per cent, of all beetle killed timber during the year.

Landowners began control operations in February but fell behind as infestations increased rapidly during May and June. Control crews reduced outbreaks to less than one-hundred by September and completed control on all known infestations by December 22. With the exception of getting behind during the peak season, control was very commendable throughout the year on the part of most landowners. Several general areas would have suffered severe insect damage had spots not been suppressed by the landowners' efforts.

Landowner expenditures for Southern pine beetle control totaled \$140,370.54 for 1965. This figure does not include control expenditures on Texas National Forests or by a few landowners who failed to report. Expenditures by individual landowners are listed in the Appendix.

CHRONICLE OF 1965 EVENTS

January 4-27 - An operations recorder survey to determine the degree and distribution of Southern pine beetle activity in southeast Texas was conducted by the U. S. Forest Service, Zone 3 Forest Insect and Disease Control Branch, Alexandria, Louisiana and the Texas Forest Service (9). The area covered was between U. S. Highways 90 and 190 from the Trinity River to the Sabine River. The number of infested trees per thousand acres (2.05) was more than the September figure for the first time since these surveys began and was higher than the previous January survey when the number was 0.31.

February 8 - The Texas Forest Service hired Max M. Ollieu, a forest entomologist, to serve with Leroy Williamson in the Forest Pest Control Section.

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Williamson turned the job of coordinator of the Southern Pine Beetle Control Project over to Ollieu to allow more of his time for other forest insect and disease projects. Ollieu received his B. S. and M. S. degrees in forestry from the University of Idaho. His previous experience includes work with the U. S. Forest Service on the San Bernardino National Forest in California and with the U. S. Forest Service Insect and Disease Control Branch, Portland, Oregon.

February 15-18 - The first Southern pine beetle detection flights conducted by the Texas Forest Service were made over the 1964 outbreak area. Southeast Texas, within the block formed by the Sabine River, Highway 190, Highway 59, and Highway 90, on the east, north, west, and south, respectively, was flown at two and one-half mile intervals. Eleven multiple-tree spots were detected.

March 22-April 27 - A second operations recorder survey was conducted by the Texas Forest Service with assistance from the U. S. Forest Service, Zone 3 Insect and Disease Control Branch, to determine the distribution and degree of Southern pine beetle infestations in southeast Texas (5). The estimate of Southern pine beetle infested trees per thousand acres obtained from the survey was 1.4.

April 27 - Weekly detection flights by the Texas Forest Service were started over northern Orange County to enable intensive Southern pine beetle control in an extremely active buildup area, mainly on Powell Lumber Company and Lutchter-Moore Lumber Company lands.

May 24-28 - Sector flight cooperators, International Paper Company, W. T. Carter and Brother, Southwestern Timber Company, Southland Paper Mills and Wirt Davis Estate, began flying their respective sectors in the same manner as the previous two years. These landowners helped with the aerial detection phase during the time when increased beetle activity required more intensive observation.

June 14 - The Texas Forest Pest Control Act passed by the 58th Legislature, Article 165-9, Vernon's Civil Statutes was invoked at a public meeting in Kountze, Texas. Results from detection flights and evaluation surveys were explained to the people in attendance. Also described were control procedures and control options available to the landowner.

September 20-October 12 - A third operations recorder survey was conducted by the Texas Forest Service to determine the distribution and degree of Southern pine beetle infestations in southeast Texas (6). Southern pine beetle infested trees per thousand acres (2.7) were twice as numerous as in the April survey and nearly identical to the fall survey results of 1962.

December 22 - All known Southern pine beetle spots were reported controlled by cooperators and the Texas Forest Service.

DETECTION

Aerial detection remained similar to that of previous years. High-wing aircraft, usually Cessna 172's and 182's, were flown at 1500 feet altitude and 100-110 miles per hour. Two to three observers were used to detect spots

1 $\frac{1}{4}$ miles on each side of the plane. Multiple-tree spots were recorded on plastic covered Texas Forest Service fire control maps by grid and infestation size. Texas Forest Service employees determined ownership and notified the landowner by mail or personal contact.

Detection flights were made monthly by the Texas Forest Service in February and March and biweekly from April through November over a 3,000,000 acre area. Weekly flights were made by the Texas Forest Service from March 23 to July 20 over a very active beetle infested area in northern Orange County. This marked the first time during the epidemic that detection flights were made as frequently as one each week.

Texas Forest Service personnel flew the entire infestation area shown on a map in the Appendix until late May when spots became numerous. After that time, cooperators helped fly designated sectors to give more intensive coverage.

Multiple-tree spots detected during 1965 were recorded during each flight made over the infestation area. The number of spots detected each month is shown in the Table I below. Care was taken to eliminate duplications reported.

Eighty-three percent of all spots detected from the air, later ground-checked, were infested by Southern pine beetle.

TABLE I
SPOTS DISCOVERED FROM AERIAL OBSERVATION, 1965

Month	New Spots Observed
February	11
March	6
April	61
May	317
June	739
July	445
August	185
September	83
October	111
November	24
Total	1982

The Texas Forest Service observed and reported infestations on the Sam Houston National Forest during the first part of the year. These spots are incorporated in the table above. USFS personnel detected an additional 28 spots on the Sam Houston and Angelina National Forests. A total of 48 spots were detected on national forests; 155 acres of timber was killed. Zone 3, Insect and Disease Control Branch personnel made detection flights over the Angelina and Sam Houston National Forests in April (1,2) and July (7,8) to record infestations. The Sabine and Davy Crockett National Forests were flown in late July (3,4), however, no Southern pine beetle infestations were observed.

CONTROL

Control efforts by landowners started during the latter part of February after the first detection flights. Observed infestations were very few, however, until April when 61 multiple-tree spots were recorded. Landowners made a concerted effort throughout the year but some fell behind as spots developed rapidly during May and June. By July nearly 700 infestations remained uncontrolled. One-hundred or more infestations were uncontrolled for more than 10 days from June to September. Control crews continued operations until December 22 when all known infestations were suppressed.

Serious Southern pine beetle concentrations were first located by men cruising Powell Lumber Company lands in northern Orange County. By excellent cooperation control crews treated infestations located by weekly detection flights as well as ground observers, and suppressed the outbreak by July 20.

Other major infestation areas were located in the Saratoga, Schwab City, Woodville and Roganville areas. Tyler and Jasper Counties displayed continued beetle activity after other areas subsided. Two infestations detected during the summer months, one near Woodville the other near Jasper, remained active and uncontrolled into the fall. Both were first mistakenly reported as controlled but re-examination proved otherwise. Control crews treated 2000 trees in the spot near Woodville and 1300 trees in the spot near Jasper.

The invocation of the Texas Forest Pest Control Act strengthened the control project during 1965. Under the Act, Texas Forest Service control crews were authorized to suppress infestations which landowners failed to act upon within a 10 day period. Twenty-nine such infestations were controlled. Landowners voluntarily reimbursed the Texas Forest Service for control costs on 140 spots. Twenty-nine others were exempt from charges because ownership totaled less than 50 acres. Texas Forest Service crews therefore controlled 198 Southern pine beetle spots during the calendar year 1965.

Chemical control recommendations were two gallons of 11% gamma isomer BHC per fifty gallons of No. 2 fuel oil.

Project Personnel

The total of 312 people employed on the control project in 1965 was more than any year since 1962. Included in the figure are supervisory personnel, clerical help, aerial observers, ground-checkers as well as control and salvage workers. Crew size ranged from two to six workers with most composed of four men: one strawboss, two sprayhands and one sawyer. Pulpwood salvage increased considerably during 1965 and added a large number of workers to the control force.

Volume of Timber Killed

Estimated total timber volume reported by landowners killed during 1965 was 1,191,600 cubic feet. For the first time since 1962 this statistic increased. Reported estimate of sawtimber kill (3,797M bd. ft.) compared closely to the years 1963 and 1964, but this figure alone is misleading because cooperators utilized more of the killed timber as pulpwood and consequently reported more pulpwood volume. Pulpwood volume kill jumped considerably from less than two thousand cords per year in 1963 and 1964 to 7,743 cords in 1965.

Salvage operations removed an estimated 66% of the beetle killed timber; 2,384 M bd. ft. as sawtimber and 5415 cords as pulpwood. These volume loss data plus those from other years of the current epidemic are listed in the Table II below.

TABLE II
Timber Volume Killed

Year	Sawlogs (M bd. ft.)	Pulpwood (cords)	Total (M cu.ft.)*
1958	500	0	83.5
1959	2,500	2,500	597.5
1960	8,000	8,000	1,912.0
1961	17,887	24,000	4,715.1
1962	93,043	111,110	23,538.1
1963	4,084	1,920	820.3
1964	2,501	1,420	519.9
1965	3,797	7,743	1,191.6
Grand Total	132,312	156,793	33,278.0

*Conversion factors: 67 cu. ft./Mbd. ft., 72 cu. ft./cord

Volume losses for 1965 include reports from private, state and federal sources. All landowners known to have participated in beetle control are included in the loss figures. The pine timber on an estimated 1,354 acres was killed by Southern pine beetles during the calendar year of 1965 which brings the total area on which the timber was killed, since 1958, to 46,759 acres. The number of multiple-tree spots and timber volume loss increased in 1965 considerably over 1964.

SUMMARY

Landowners initiated control in February but ~~fell~~ behind as infestations increased rapidly during May and June. Control finally reduced infestations to less than 100 by September and all known spots were suppressed by December 22. Most landowners performed diligent control throughout the year and restricted the amount of damage caused by the insect. Problems rose mainly from manpower shortage during the peak of the control season.

The Forest Pest Control Act was invoked to authorize the Texas Forest Service to control Southern pine beetle infestations on property of recalcitrant landowners. Most landowners complied with the provisions of the law; however, twenty-nine infestations were ignored and subsequently controlled by the Texas Forest Service.

Evaluation surveys using the operations recorder were conducted three times over the epidemic area in 1965. Winter beetle populations remained higher than similar survey results in 1963 and 1964 and foretold of probable increased beetle depredations. Infestations found during the summer months later confirmed the prediction. The 1965 fall evaluation survey data again showed high beetle populations and an even worse Southern pine beetle buildup in 1966 was predicted.

LITERATURE CITED

- (1) Overgaard, N. A. and Galusha, H. H., Jr. 1965. Biological Evaluation of Southern Pine Beetle Infestations on the Angelina National Forest, Texas. Report No. 65-3-13. USDA, Forest Service, R-8.
- (2) Overgaard, N. A. and Galusha, H. H., Jr. 1965. Biological Evaluation of Southern Pine Beetle Infestations on the Sam Houston National Forest, Texas. Report No. 65-3-15. USDA, Forest Service, R-8.
- (3) Overgaard, N. A. and Galusha, H.H., Jr. 1965. Southern Pine Beetle Detection Survey of the Sabine National Forest, Texas. Report No. 65-3-16. USDA, Forest Service, R-8.
- (4) Overgaard, N. A. and Galusha, H.H., Jr. 1965. Southern Pine Beetle Detection Survey of the Davy Crockett National Forest, Texas Report No. 65-3-17. USDA, Forest Service, R-8.
- (5) Williamson, D. L. 1965. Aerial Survey of Southern Pine Beetle Infestations in Southeast Texas. Unpublished Report. Forest Pest Control Section, Texas Forest Service, Lufkin, Texas.
- (6) Williamson, D. L. and Ollieu, M. M. 1965. Aerial Survey of Southern Pine Beetle Infestations in Southeast, Texas. Unpublished Report. Forest Pest Control Section, Texas Forest Service, Lufkin, Texas.
- (7) Wilmore, D.H. and Galusha, H. H., Jr. 1965. Southern Pine Beetle Detection Survey of Angelina National Forest, Texas. Report No. 65-3-6. USDA, Forest Service, R-8.
- (8) Wilmore, D.H. and Galusha, H.H., Jr. 1965. Southern Pine Beetle Detection Survey of Angelina National Forest, Texas. Report No. 65-3-7. USDA, Forest Service, R-8.
- (9) Wilmore, D.H., Galusha, H.H. Jr., and Ketcham, D. E. 1965. Aerial Survey of Southern Pine Beetle Infestations in Southeast Texas. Report No. 65-3-2. USDA, Forest Service, R-8.

APPENDIX

Statement of Southern Pine Beetle Control Expenditures for 1965
Area of Southern Pine Beetle Infestation 1965

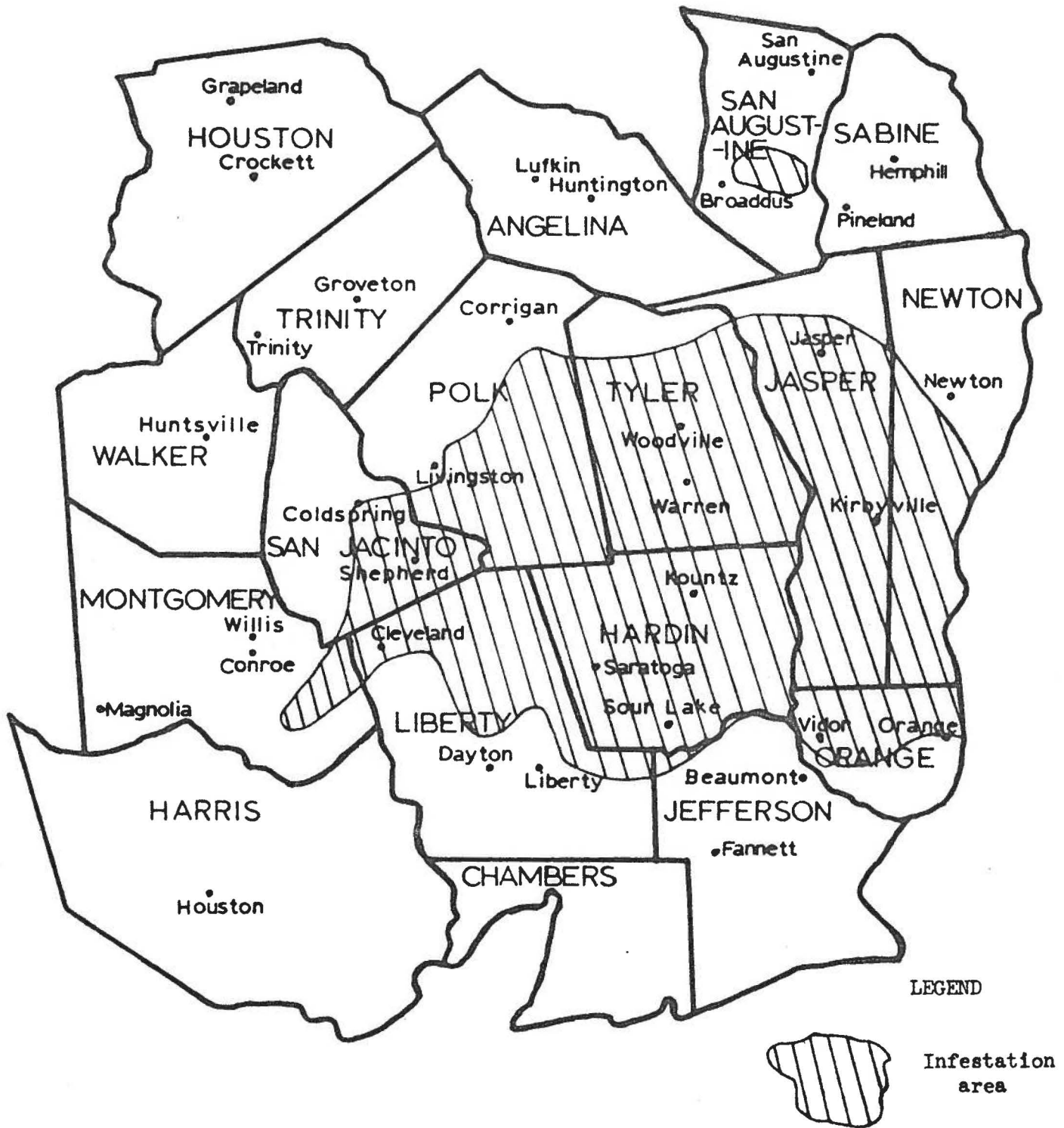
Sample of Forms Used

Master List - FM 35
Flash Report - FM 38
Notification Southern Pine Beetle Infestation
Permission for Control FM 45a, FM 45b, FM 45c

SOUTHERN PINE BEETLE CONTROL EXPENDIURES
January 1, 1965 - December 31, 1965

<u>COOPERATOR</u>	<u>EXPENDITURES REPORTED</u>
Alabama - Coushatta Indian Reservation	\$ 68.58
Angelina County Lumber Company	6,229.11
Mrs. W. S. Bailey	214.01
J. B. Best & Company	24.93
W. T. Carter & Company	7,262.79
L. Cartwright Production Co.	776.70
Champion Papers Incorporated	7,186.85
N. A. Cravens	326.00
Wirt Davis Estate	2,344.20
Joe Wesley Dickerson, M. D.	24.63
Donner Corporation	205.60
D. V. Felps	51.85
James F. Ferguson	82.55
Mrs. A. M. Gilliam	80.98
Charles G. Hooks	393.64
International Paper Company	11,058.14
Tom R. Jones	160.44
Kirby Lumber Corporation	46,590.43
Wendel D. Ley	242.37
Lutcher-Moore Lumber Company	1,237.00
Robert A. Mann	47.41
D. P. Mann, Estate	140.65
Marbann Corporation	847.03
Moss American, Inc.	580.86
T. J. Moss Tie Company	395.95
Newton Lumber Company	67.66
S. D. O'Brien	775.12
Ogletree Lumber Company	380.68
Powell Lumber Company	10,035.18
B. E. Quinn & Sons	155.70
P. A. Racki Lbr. Co.	7,580.10
Mrs. John Reid	86.71
R. I. Reid	173.96
Sam Reid	28.04
A. B. Rhodes	92.89
O. C. Rice	136.38
W. A. Ryall	137.98
Dalton M. Sheffield	165.10
H. B. Shepherd	930.15
Mrs. Garland Smith	80.98
Southland Paper Mills, Inc.	9,204.23
Southwestern Settlement & Development Co.	11,906.07
Southwestern Timber Co.	2,295.22
D. A. Spurlock	10.22
H. J. L. Stark	4,471.00
Estate of Margaret Stephenson	25.00
Temple Industries Inc.	4,977.51
E. W. Tubbs & L. M. Feagin	37.73
Ray W. Willoughby	44.23
Grand Total	<u>\$140,370.54</u>

Area of Southern Pine Beetle Infestation - 1965



SOUTHEAST TEXAS

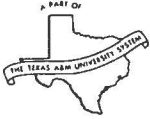
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TEXAS FOREST SERVICE
Southern Pine Beetle Detection and Control Report

[illegible]

RETURN TO:

TEXAS FOREST SERVICE



File 6.3562

Texas

To:

Re: Notification of Southern Pine Beetle Infestation

The Forest Pest Act, Article 165-9, Vernon's Civil Statutes of Texas of the 58th Legislature, states that forest pests are a public nuisance. The Texas Forest Service is responsible for the administration of the Forest Pest Law. A copy of the law will be supplied upon request.

The Southern pine beetle is an insect pest that can do a tremendous amount of damage quickly unless checked. Section 4 of the Forest Pest Act law provides that each forest landowner "shall control" the forest pest which is a public nuisance.

By authority cited in the preceding paragraph you are notified that:

1. There are pine trees infested with Southern pine beetles on land purported to belong to you. The land is situated in the _____ part of the _____ Survey in _____ County. The Texas Forest Service map grid location is _____. A sketch map of the location is attached. Approximately _____ trees were infested as of _____.

2. To prevent the infestation from spreading, you should commence within 10 days of the receipt of this notice to diligently take the prescribed control measures and continue with all practical expedition and efficiency until the beetle population has been controlled. Recommended treatment is described in the attached copy of "Procedures for Control." Should you fail to commence control of the infestation within ten days, the law authorizes the Texas Forest Service to enter the land and cause the pest to be controlled.

3. If your ownership of forest land in _____ County is 50 acres or less, and you request the Texas Forest Service do the control work rather than doing it yourself, there will be no cost to you, but your written permission to do so is needed. The attached Form FM #45b serves this purpose. If it applies to you, please sign it and return to the undersigned promptly.

4. If all or part of the standing trees are owned by someone else under a valid existing contract, the law requires that you notify the Texas Forest Service of such facts, including names and addresses of the owners, within ten days of the date of this notice.

2.

5. If you are unable to take the control measures prescribed, but are willing to pay the Texas Forest Service to do the control work before ten days elapse after receiving this notice, please sign the attached Form FM #45a and return it to the undersigned promptly so it may proceed with the control work.

6. If you are unwilling to take the prescribed control measures, but will permit control work before the 10 days elapse, please sign Form FM #45c and return it to the undersigned promptly.

District Forester

Address

Telephone Number

Attachments

TEXAS FOREST SERVICE



File 6.3562

Texas

To:

Re: Notification of Southern Pine Beetle Infestation

The Forest Pest Act, Article 165-9, Vernon's Civil Statutes of Texas of the 58th Legislature, states that forest pests are a public nuisance. The Texas Forest Service is responsible for the administration of the Forest Pest Law.

Section 4 of the Forest Pest Act law provides that each forest landowner "shall control" the forest pest which is a public nuisance.

By authority cited in the preceding paragraph you are notified that:

1. There are pine trees infested with Southern pine beetles on land purported to belong to you. The information on the location of each infested spot is shown by Texas Forest Service map grid number on the attached flash report.

2. To prevent the infestation from spreading, you should commence within ten days of the date of this letter to diligently take measures to control the infestation and continue with all practical expedition and efficiency until the insect has been controlled. You have already been supplied with a copy of "Procedures for Control" dated June 7, 1965.

Please inform me not later than eleven days after the date of this communication the status of control on each of the spots reported on the attached flash report.

District Forester

Address

Telephone Number

Attachment

Form FM #45a
June 1965

Permission For Control
of a
Southern Pine Beetle Infestation

Permission is hereby given to the Texas Forest Service to control an infestation of Southern pine beetles located on land owned and controlled by me in the _____ Survey, _____ County, Texas.

I agree to pay the Texas Service the full amount of the control cost.

Owner's Signature

(Owner's Address)

(Date)

Form FM #45b
June 1965

Permission For Control
of a
Southern Pine Beetle Infestation

Permission is hereby given to the Texas Forest Service to control an infestation of Southern pine beetles on land owned and controlled by me in the _____ Survey \ _____ County, Texas.

Payment by me is exempt by law because I own less than 50 acres of forest land in _____ County.

Owner's Signature

(Owner's Address)

(Date)

Permission For Control
of a
Southern Pine Beetle Infestation

Acknowledgement is made to receipt of a notice from the Texas Forest Service to control an infestation of Southern pine beetles located on land owned and controlled by me in the _____ Survey of _____ County, Texas.

It is not my intention to control the Southern pine beetles on my lands but authorization is given to the Texas Forest Service to proceed with the control on my property.

Owner's Signature

(Owner's Address)

(Date)

Cooperators in Southern Pine Beetle Control Project
sent copy of Observations of the 1965 East Texas
Southern Pine Beetle Epidemic Report, by Kenneth Nelson

Mr. Walter Broemer
Superintendent
Alabama-Coushatta Indian Reservation
Route 3
Livingston, Texas

Mr. Art Lehman
Angelina County Lbr. Company
Keltys, Texas

Mr. R. V. St. Amant
Owens-Illinois, Inc.
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Orange, Texas

Mrs. W. S. Bailey
% Mrs. J. G. Rankin
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Haynesville, Louisiana

Mr. J. B. Best
409 West Bluff
Woodville, Texas

Mr. I. F. Grillot
W. T. Carter & Bro.
Camden, Texas

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L. Cartwright Production Co.
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Assistant Regional Manager
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Silsbee, Texas

Mr. Charles R. Franklin
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Dr. Joe Dickerson
Mary Dickerson Memorial Hospital
Jasper, Texas

Donner Corporation
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Roganville, Texas

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% Mrs. Garland Smith
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Forester
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Orange, Texas

Mr. Robert A. Mann
Woodville, Texas

D. P. Mann Estate
% Robert Mann
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Rye, Texas

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Woodville, Texas

Mr. R. I. Reid
% Woodville Lumber Co.
Woodville, Texas

Mr. Sam Reid
Woodville Lumber Co.
Woodville, Texas

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Jasper, Texas

Mr. O. C. Rice
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Freeport, Texas

Mr. W. A. Ryall
410 College St.
Jasper, Texas

Mr. Dalton M. Sheffield
Rt. 3, Box 85
Jasper, Texas

Mr. H. B. Shepherd
Star Toure
Woodville, Texas

Mrs. Garland Smith
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Jasper, Texas

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Lufkin, Texas

Mr. John Chesser
Asst. Manager of Forest Operations
Southwestern Timber Company
Jasper, Texas

Mr. D. A. Spurlock
Warren, Texas

Mr. H. J. L. Stark
Lutcher-Moore Lbr. Company
Orange, Texas

Estate of Margaret Stephenson
% Mr. Ward Stephenson
Orange, Texas

Mr. Kenneth Nelson
Temple Industries
Diboll, Texas

E. W. Tubbs & L. M. Feagin
% E. W. Tubbs
Woodville, Texas

Mr. Ray W. Willoughby
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